GERHARDTITE FROM THE DAISY SHAFT, MINERAL HILL MINE, PIMA COUNTY, ARIZONA

By

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Several specimens from the Daisy shaft of the Mineral Hill Mine, Pima County, in the collection of Mrs. Brooks Davis of Tucson, were recently examined and found to contain gerhardtite. Since gerhardtite is quite a rare mineral and it is likely that the mine will produce no more specimens, this occurrence merits comment.

The gerhardtite occurs as thin seams of granular crystalline material in massive cuprite. It has a dark blue-green color and resembles spangolite in general appearance.

The optical properties of the gerhardtite were found to be as follows: n_α 1.698, n_β 1.717, and n_γ 1.725 (in white light). The dispersion of the optic axes is high, with v greater than r, and is noticeable in interference figures. 2V, determined with the universal stage, is 56.7°. The pleochroism is not strong with Z blue and X and Y blue green; the pleochroic formula is Z>X>Y. The optic plane and Z are normal to the best cleavage (001) and another poorer cleavage is normal to X.

The specimen gave a strong positive nitrate reaction (brown ring test) and a powder pattern matched data given in the A. S. T. M. files for artificial basic copper nitrate.

The cuprite containing the gerhardtite is invariably coated with later aurichalcite followed by calcite. Malachite occurs in seams which cut both the aurichalcite and the cuprite.